Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled).

2. (Currently Amended) The machine as claimed in ~~claim 1,~~claim 34, wherein $X_d/X_q > 1.1$.

3. (Previously Presented) The machine as claimed in claim 2, wherein $X_d/X_q \simeq 3$.

4. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein X_qI_o/E is between 0.33 and 0.6, where I_o denotes the maximum line current intensity imposed by the rating of a controller of the machine and E denotes the electromotive force induced per phase of the machine.

5. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein X_dI_o/E is between 0.66 and 1, where I_o denotes the maximum line current intensity imposed by the rating of a controller of the machine and E denotes the electromotive force induced per phase of the machine.

6-8. (Canceled).

9. (Currently Amended) The machine as claimed in ~~claim 8,~~ claim 34, wherein the pole pieces of the rotor each have a face turned toward the stator, which face has a convex portion.

10-12. (Canceled).

13. (Currently Amended) The machine as claimed in ~~claim 8,~~ claim 34, wherein each of the permanent magnets of the rotor lies radially set back from the circumferential ends of the convex portions of the two adjacent pole pieces.

14. (Previously Presented) The machine as claimed in claim 13, wherein the setback (r) in the radial direction of the magnets relative to the circumferential ends of the convex portions lies between 10% and 20% of the inside radius (R) of the stator.

15. (Currently Amended) The machine as claimed in ~~claim 8,~~ claim 34, wherein each of the pole pieces of the rotor has two shoulders, at least one permanent magnet lying between the shoulders of two adjacent pole pieces.

16. (Canceled).

17. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the permanent magnets have, when the machine is observed along the axis (X) of rotation of the rotor, a cross section of elongate shape with its long axis lying in a radial direction.

18. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the permanent magnets of the rotor have, when the machine is observed along the axis (X) of rotation of the rotor, a rectangular cross section with its large side oriented parallel to a radius of the machine.

19. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the stator has 6n teeth and the rotor has $6n \pm 2$ poles, n being greater than or equal to 2.

20. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the machine has a single inner rotor.

21. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the power of the machine is equal to or greater than 0.5 kW.

22. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the machine constitutes a generator.

23. (Currently Amended) The machine as claimed in ~~claim 1,~~ claim 34, wherein the machine constitutes a motor.

24-30. (Canceled).

31. (Previously Presented) The machine as claimed in claim 2, wherein

$X_d/X_q > 1.5$.

32. (Previously Presented) A synchronous electrical machine including a motor comprising:

a stator; and

at least one rotor having permanent magnets, wherein the motor is configured so as to have $X_d > X_q$, where X_d is the direct reactance and X_q is the quadrature reactance,

wherein the rotor is a flux-concentrating rotor, the permanent magnets of the rotor being placed between pole pieces,

wherein the pole pieces of the rotor each have a face turned toward the stator, which face has a convex portion,

wherein the convex portion of at least one of the pole pieces has a radius of curvature of between 20% and 30% of the inside radius (R) of the stator, and

wherein the circumferential ends of the convex portion of the one pole piece are angularly offset relative to the permanent magnets adjacent the one pole piece.

33. (Previously Presented) The machine as claimed in claim 32, wherein the angular offset β of the circumferential ends relative to the adjacent permanent magnets lies:

between $80°/n_{teeth}$ and $100°/n_{teeth}$, being especially about $90°/n_{teeth}$, for a machine in which the ratio of the number of stator teeth n_{teeth} to the number of rotor poles n_{poles} is 3/2 or which satisfies the relationship $n_{teeth}/n_{poles} = 6n/(6n-2)$, where n is an integer greater than or equal to 2; and

between $50°/n_{teeth}$ and $70°/n_{teeth}$, being especially about $60°/n_{teeth}$, for a machine that satisfies the relationship $n_{teeth}/n_{poles} = 6n/(6n+2)$, where n is an integer greater than or equal to 2.

34. (Previously Presented) A synchronous electrical machine including a motor comprising:

a stator; and

at least one rotor having permanent magnets, wherein the motor is configured so as to have $X_d > X_q$, where X_d is the direct reactance and X_q is the quadrature reactance, wherein the rotor is a flux-concentrating rotor, the permanent magnets of the rotor being placed between pole pieces,

wherein each of the pole pieces of the rotor has a salient part extending toward the stator, having radial edges that are angularly offset relative to the radially directed edges of the permanent magnets adjacent the pole piece.